

Appn.# 10/597,346 (Reistroffer)

Amendment C

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SPECIFICATION:

Please replace paragraphs [0035] – [0036] with the following amended paragraphs:

[0035] The linear incendiary strand of the present invention incorporates [[a]] rapid linear axial ignition means for initiating combustion of a fuel component, wherein an ignition reaction is conducted rapidly that provides for the high velocity propagation of an ignition reaction along the longitudinal axis of the strand. Such ignition reaction is characterized as a flame-producing, non-explosive deflagration, and does not exhibit the brisance or linear rate of burning that is characterized as a detonation. The rapid axial ignition means is exemplified by an elongate pyrotechnic composition element that, upon ignition, burns in a rapid manner producing hot gasses and incandescent particles capable of igniting the co-linearly arranged combustible fuel composition component of the incendiary strand. Such rapid propagation of an ignition reaction and subsequent ignition of the fuel composition component may provide[[s]] a nearly instantaneous line of fire along the path of the subject incendiary device. A self-sustaining, forward-moving flame front in vegetative fuels is developed gradually, from the instant of ignition until a steady state of burning is reached that exhibits a relatively constant rate of spread and intensity. The term “rapid”, as used herein and in the claims, describes an accelerated rate of ignition propagation axially along the body of the ignition strand, relative to the intrinsic rate at which free-burning combustion of assembled strand materials propagates along the strand, upon ignition from an external heat source.

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[0036] One means of providing rapid linear axial ignition along the incendiary strand, although not exclusive of other alternatives, is the incorporation of a "piped fuse" ~~in the structure in the body of the strand.~~ The technology of piped fuses is known in the art of pyrotechnics, described for example in "Military and Civilian Pyrotechnics" (Ellern, 1968). The piped fuse, also known as "quick match" or "piped match" to those practiced in the art, is characterized as an elongate pyrotechnic element, such as a fuse, that is confined within the interior of an elongate close-fitting conduit. This conduit, normally serving the purpose of an exterior sheath of the fuse assembly, provides a channel for gaseous combustion products and heat to be driven in a forward direction along the length of the fuse. The hot gasses and sparks pre-heat and ignite the pyrotechnic element in advance of the traveling wave of ignition reaction, further accelerating the flame front to high linear velocity along the longitudinal axis of the fuse assembly. The present invention may incorporate such a piped match structure in the construction of the strand, whereby a pyrotechnic element is arranged centrally in a channel defined by other structural elements of the strand. At least some proportion, preferably a major proportion, of the interior surface area of the longitudinal gas channel of the strand is comprised of a solid or semi-solid fuel component, which upon ignition will undergo self-sustained combustion and emit flames to the exterior surface of the strand. The gas channel may further be formed by a suitable exterior covering, or sheath, such as, for example, paper, plastic film, or coated fabric compositions.

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Please replace the first sentence of paragraph [0037] with the following amended sentence:

[0037] The pyrotechnic element of the rapid linear axial ignition means of the present invention may be selected from a number of alternatives known in the art[.], including, but not limited to, deflagration cord, quick match, black match, safety fuse, igniter cord, and powder train.

Please replace paragraph [0075] with the following amended paragraph:

[0075] The phrase "nearly instantaneous" is used to describe a rapid rate of flame propagation along a linear pathway for the purpose of initiating fires in vegetative fuels. An ignition propagation rate of 100 meters per second along the subject incendiary strand is considered nearly instantaneous for the purposes of the present invention.